

Ground Water Pollution Investigation around Çorum Stream Basin in Turkey

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Abstract : Water and ground water pollution at the most of the countries is important problem. Investigation of water pollution source must be carried out to save fresh water. Because fresh water sources are very limited and recent sources are not enough for increasing population of world. In this study, investigation was carried out on pollution factors effecting the quality of the groundwater in Çorum Stream Basin in Turkey. Effect of geological structure of the region and the interaction between the stream and groundwater was researched. For the investigation, stream and groundwater sampling were performed at rainy and dry seasons to see if there is a change on quality parameters. The results were evaluated by the computer programs and then graphics, distribution maps were prepared. Thus, degree of the quality and pollution were tried to understand. According to analysis results, because the results of streams and the ground waters are not so close to each other we can say that there is no interaction between the stream and the groundwater. As the irrigation water, the stream waters are generally in the range between C3S1 region and the ground waters are generally in the range between C3S1 and C4S2 regions according to US Salinity Laboratory Diagram. According to Wilcox diagram stream waters are generally good-permissible and ground waters are generally good permissible, doubtful to unsuitable and unsuitable type. Especially ground waters are doubtful to unsuitable and unsuitable types in dry season. It may be assumed that as the result of relative increase in concentration of salt minerals. Especially samples from groundwater wells bored close to gypsum bearing units have high hardness, electrical conductivity and salinity values. Thus for drinking and irrigation these waters are determined as unsuitable. As a result of these studies, it is understood that the groundwater especially was effected by the lithological contamination rather than the anthropogenic or the other types of pollution. Because the alluvium is covered by the silt and clay lithology it is not affected by the anthropogenic and the other foreign factors. The results of solid waste disposal site leachate indicate that this site would have a risk potential for pollution in the future. Although the parameters did not exceed the maximum dangerous values it does not mean that they will not be dangerous in the future, and this case must be taken into account.

Keywords : Çorum, environment, groundwater, hydrogeology, geology, pollution, quality, stream

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